

REMARKS

Applicant has carefully reviewed the non-final Office Action mailed on November 13, 2008. In response, this Amendment document is submitted to address and fully overcome the rejections made in the Office Action.

Initially, claims 1, 2, 4, 5, 7, 9, and 11 stand rejected as being anticipated under 35 U.S.C. § 102(e) by U.S. Patent No. 6,797,908 to Yan et al. (“Yan”), claims 3, 6 and 8 stand rejected as being obvious under 35 U.S.C. § 103(a) over Yan, and claim 10 stands rejected as being obvious under 35 U.S.C. § 103(a) over Yan in view of U.S. Patent No. 5,591,253 to Altman et al. (“Altman”).

An “anticipation” rejection requires “strict identity” between the prior art invention and the one set forth in the claim. *See Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989) (holding that an anticipating reference must describe all claimed aspects of the invention). This “strict identity” requirement means that “unless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. § 102.” *Net Moneyin, Inc. v. Verisign, Inc.*, 545 F.3d 1359 (Fed. Cir. 2008). The “mere possibility” that the claimed structure exists in the reference is inadequate to meet this “strict identity” requirement. *See Continental Can Company USA v. Monsanto Company*, 948 F.2d 1264, 1269, 20 USPQ2d 1746 (Fed. Cir. 1991) (holding that anticipation “may not be established by probabilities or possibilities”).

Turning to independent claim 1, it requires a rotor “having a generally non-permeable outer surface for contacting and assisting in charging the particles.” In contrast, in Yan, the “[c]orona-ionizing source 36 subjects the passing particulate materials 16 to ion bombardment, which effectively sprays mobile ions generally horizontally towards the particulate materials 16 as same travel generally vertically through passageway 33” (col. 8,

ll. 53-57), and an additional corona-ionizing source “supplies charges to fine to middle sized fraction 31 rotating on the outer drum surface 54” (*col. 10, ll. 29-30*).

Thus, in Yan, the corona-ionizing sources, rather than a rotor with a generally non-permeable outer surface, charge the particles. Indeed, Yan teaches an outer drum surface that serves the *exact opposite purpose* when particulate materials contact it. That is, fine to middle size conducting particulate materials “*lose their charge to grounded outer drum surface 54* of body 55,” in Yan. *Col. 11, ll. 10-12* (emphasis added). Indeed, the Examiner recognizes in the Action that “Yan teaches that the rotary body 55 is connected to ground.” Accordingly, there is no substantial evidence that Yan discloses the claimed “rotor . . . for contacting and assisting in charging the particles,” or that particles contacting drum surface would be charged, as claim 1 requires.

With respect to the Examiner’s statement that Yan teaches “every structural element as cited in” claim 1, Applicant further notes that it is free to claim the invention structurally or functionally. *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429 (Fed. Cir. 1997) (“[a] patent applicant is free to recite features of an apparatus either structurally or functionally” (citing *In re Swinehart*, 439 F.2d 210, 439 F.2d 210, 212, 169 USPQ 226, 228 (CCPA 1971) (“[T]here is nothing intrinsically wrong with [defining something by what it does rather than what it is] in drafting patent claims.”)). Nonetheless, “[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art.” MPEP § 2143.03 (citing *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)). Moreover, even if the Examiner contends that this claimed function is “merely probably or possibly present” in Yan, this is insufficient to support a proper anticipation rejection. *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295, 63 USPQ2d 1597 (Fed. Cir. 2002). See also *W.L. Gore v. Garlock, Inc.*, 721 F.2d at 1554 (Fed. Cir. 1983) (anticipation “cannot be predicated on mere conjecture respecting the characteristics of products . . . ”);

In re Oelrich, 666 F.2d 578, 581 212 USPQ 323 (CCPA 1982) (to anticipate, the asserted inherent function must be present in the prior art).

Applicant also presents herewith a Declaration under 37 CFR 1.131 from inventor Tao establishing a reduction to practice of the invention of at least claim 1 prior to the effective date of Yan.

For at least these reasons, Applicant submits that independent claim 1 is neither anticipated nor rendered obvious by Yan, and should be allowed.

Claims 2-11 depend upon independent claim 1 and also believed to be allowable for this reason. *See Trintec Industries, Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1296, 63 USPQ2d 1597 (Fed. Cir. 2002) (noting that if an independent claim is not anticipated by the prior art, then its dependent claims, which necessarily include the limitations of the independent claim, are not anticipated either). Nevertheless, the independent patentability of the inventions of several of these claims is noted, including under the legal concept of “obviousness.”

Evidentiary support for a reason for combining two references is undoubtedly still a requirement of a *prima facie* case of obviousness. *See* Memorandum of Margaret A. Focarino, Deputy Commissioner for Patent Operations, May 3, 2007 (“in formulating a rejection under 35 U.S.C. 103(a) based upon a combination of prior art elements, it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed . . .”) (emphasis added). Indeed, Supreme Court precedent recognizes that the ability to “merely demonstrat[e] that each of its elements was, independently, known in the prior art” is insufficient to establish obviousness. *See KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (U.S. 2007) (holding that obviousness cannot be proven “merely by demonstrating that each of its elements was, independently, known in the prior art . . .”) (emphasis added). Rather, it is “important to identify a reason that would have prompted a person of ordinary skill in the relevant field

to combine the [prior art] elements.” *Id.* Furthermore, the “reason” must have a rational underpinning, and must be articulated in the record. *Id.*

Claim 3 now requires that the chamber is “annular,” which arrangement is not found in Yan. The Examiner contends that the “configuration of the housing is a matter of choice which a person or ordinary skill would have found obvious.” Aside from the fact that it ignores the prior requirement in the claim that it is the chamber, not a housing that is cylindrical, this statement is neither supported by any substantial evidence, nor does it qualify as the required articulate reasoning with a rational underpinning for supporting an obviousness rejection. Rather, this is the type of “mere conclusory statement” that has long been assailed as being insufficient to support a *prima facie* case of obviousness.

The same analysis applies to claim 6, requiring that the partition is adjustable. Nowhere does the Examiner provide any articulated reasoning with a rational underpinning as to why the “splitter” 18 of Yan would be made adjustable. Instead, the Examiner cites to MPEP 2144 for the proposition that adjustability is not a patentable advance, which in turn relies on *In re Stevens*, 212 F.2d 197, 101 USPQ 284 (CCPA 1954). *Stevens* was decided more than 15 years before the seminal decision in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (U.S. 1966), the viability of which was recently affirmed in *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (U.S. 2007). In *Graham*, the Court eschewed a bright line test of obviousness, stating:

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

According to the Manual of Patent Examining Procedure, at Section 2141, “Office policy is to follow *Graham v. John Deere Co.* in the consideration and determination of obviousness under 35 U.S.C. 103.” Hence, the Examiner’s reliance on *Stevens* for a *per se* rule of obviousness is improper.

With respect to claim 8, the Examiner concedes that Yan is silent as to rotating speed, but nonetheless contends that a skilled artisan “would have realized to optimize rotating speed of the rotate [sic] body 55 in order to achieve desired separation of particulate materials.” This statement constitutes mere speculation, unsupported by any evidence in the record that Applicant’s claimed rotational speed is optimal for “separating particles.” Indeed, Applicant’s claimed rotor does not “separate” particles at all, but rather charges them. Accordingly, the Examiner’s has failed to establish the *prima facie* obviousness of the invention of claim 8.

Turning to claim 10, the Examiner admits the deficiency in Yan, in that the wall of any housing comprises an electrode. Accordingly, citation is made to U.S. Patent No. 5,591,253 to Altman to allegedly supply this missing teaching. In view of this proposed combination, the Examiner contends that “it would be obvious for one having ordinary skill in the art to utilize the wall of the housing of Yan as another electrode as suggested by Altman in order to achieve predictable results of separating charged particles within a more compact device.”

This assertion does not qualify as the requisite articulated reasoning based on a rational underpinning necessary to support an obviousness rejection for several reasons. First of all, there is absolutely no evidence of any need for “another electrode” in the device of Yan. Indeed, including “another electrode” by electrifying the housing would ostensibly jeopardize the separation function performed. It is well-established that a proposed modification that changes the operation of a prior art device is antithetical to obviousness.

Secondly, the reasoning provided for the combination - “separating charged particles with a more compact device” - is not a rational one for making the combination. There is absolutely no evidence that using the housing as an electrode results in a smaller or more compact separator. Furthermore, there is absolutely nothing to indicate that such a modification would yield anything “predictable.” Accordingly, a *prima facie* case of obviousness is lacking with respect to claim 10.

Applicant presents new claims 22-32 for consideration. Claim 22 recites “means for frictionally charging the particles.” Proper examination thus requires an evaluation of the structures disclosed in the specification for performing the recited function, as well as findings that the prior art not only performs the recited function, but also does so using identical or equivalent structures to those described in the Applicant’s specification. See MPEP § 2181 (“the ‘broadest reasonable interpretation’ that an examiner may give means-plus-function language is that statutorily mandated in paragraph six. Accordingly, the PTO may not disregard the structure disclosed in the specification corresponding to such language when rendering a patentability determination.”). If the prior art does not perform the identical function recited, or does so using non-identical or non-equivalent structures, then a proper rejection cannot lie. *McGinley v. Franklin Sports Inc.*, 60 USPQ2d 1001 (Fed. Cir. 2001) (“in the context of a means-plus-function claim, the . . . prior art must disclose not simply a means for achieving the desired function, but rather the particular structure recited in the written description corresponding to that function, or an equivalent thereof.” (citing *In re Donaldson Co., Inc.*, 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1849 (Fed. Cir. 1994)).

Yan discloses no such structure for performing this identical function. Rather, as mentioned above, the “[c]orona-ionizing source 36 subjects the passing particulate materials 16 to ion bombardment, which effectively sprays mobile ions generally horizontally towards the particulate materials 16 as same travel generally vertically through passageway 33” (*col. 8, ll. 53-57*), and an additional corona-ionizing source “supplies charges to fine to middle

sized fraction 31 rotating on the outer drum surface 54" (*col. 10, ll. 29-30*). Thus, Applicant submits that Yan fails to teach or disclose each and every element of claim 22.

Further, it would not be obvious to modify the apparatus of Yan to include "means for frictionally charging the particles," as claimed in claim 22. In fact, Yan teaches away from frictional charging by teaching an entirely different method of charging, ion bombardment. For at least these reasons, Applicant submits that new independent claim 22 is neither anticipated nor rendered obvious by Yan, alone or in combination with Altman, and should be allowed. Claims 23-29 depend upon independent claim 22 and also believed to be allowable.

With respect to new independent claim 30, Yan does not disclose "a separator downstream of the chamber outlet for separating the particles from the fluid flow after the particles are charged." In contrast, Yan discloses a housing 17 surrounding an entire hybrid electrostatic classifier and separator 11, including a corona classifier section 13, first drum separator section 14, and second plate separator section 15. *Col. 7, ll. 28-32 and 38-45*. Further, because Yan teaches separating particulate materials within the housing 17, it would not be obvious to modify Yan to include "a separator downstream of the chamber outlet for separating the particles from the fluid flow after the particles are charged," as claimed in claim 30. Instead, Yan teaches away from such an arrangement, teaching a corona classifier section 13 that separates particulate materials 16 according to size ***while the particulate materials 16 are charged***, explaining:

particulate materials 16 fall in a generally vertical direction while corona-ionization is generated in a generally horizontal direction. The net effect of gravitational force and electrical force on the free-falling trajectory of particulate materials 16 is markedly different and provides that the fine to middle size particulate materials drift generally in the x-axis direction under the influence of the electrical force while the gravitational force dominates the middle to coarse particulate materials free-fall trajectory thereby causing same

to fall generally in the y-axis direction. Size classification of particulate materials 16 is therefore achieved and permits continuous operation.

Col. 8, l. 66 - col. 9, l. 10. For at least these reasons, Applicant submits that new independent claim 30 is neither anticipated nor rendered obvious by Yan, alone or in combination with Altman, and should be allowed.

Finally, new claims 31 and 32 require that the inner surface of the outer wall forming the chamber is the same shape as the outer surface of the rotor positioned therein. Neither Yan nor Altman disclose this structural arrangement, which provides for the efficient charging of the particles prior to separation. Accordingly, these claims are believed to be allowable as presented.

In light of the foregoing, it is now believed that all pending claims are allowable. To the extent questions remain, the Examiner is invited to call the undersigned representative. *If any fees are due, the undersigned authorizes their deduction from deposit account number 11-0978.*

Respectfully submitted,

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